

REMARKS

Claim Objections

Claims 5 and 6 are objected to because the term "the frequency offset estimator" recited in line 2 of claims 5 and 6 lacking antecedent basis. Responsive to the Examiner's objections, Applicant amends both claims 5 and 6 to depend from amended claim 1, in which the term "a frequency offset estimator" is recited in line 7 from the last line. Therefore, Applicant respectfully requests that the objection be withdrawn.

It appears the application was filed without a claim 20. For clarity, Applicant herein cancels claim 20.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejects claims 1 – 3 and 7 – 9 under 35 U.S.C. 102(e) as being anticipated by Dubrovin et al. (US 6,901,121).

Responsive to the Examiner's rejection of Claims 1 – 3, Applicant incorporates limitations of claim 3 and 4 into claim 1. Amended Claim 1 recites the at least one of the plurality of offset estimators comprising a direct current offset estimator, the direct current offset estimator for estimating a direct current offset from the at least the received portion of the at least one data packet while the at least one data packet is being received, and the direct current offset estimator for providing an estimate of the direct current offset of the at least one data packet; and the at least another one of the plurality of offset estimators comprises a frequency offset estimator coupled to receive the estimate of the direct current offset of the at least one data packet from the direct current offset estimator, the frequency offset estimator for estimating a frequency offset from the at least the received portion of the at least one data packet while the at least one data packet is being received and from the estimate of the direct current offset of the at least one data packet, and the frequency offset estimator for providing an estimate of the frequency offset of the at least one data packet.

Dubrovin et al. discloses a data communication receiver that receives data packets, the data communication having a DC offset estimator that detects and compensates for the DC offset. Offset estimators are coupled to the input. Nonlinear impairment detection and compensation module receives the DC offset compensated signal. The nonlinear impairments may be removed using any technique.

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However Dubrovin et al. does not disclose the feature of amended claim 1 being at least another one of the plurality of offset estimators comprises a frequency offset estimator coupled to receive the estimate of the direct current offset of the at least one data packet from the direct current offset estimator, the frequency offset estimator for estimating a frequency offset from the at least the received portion of the at least one data packet while the at least one data packet is being received and from the estimate of the direct current offset of the at least one data packet, and the frequency offset estimator for providing an estimate of the frequency offset of the at least one data packet.

Applicant thus respectfully submits that Dubrovin et al. fails to teach or suggest the claimed feature of amended claim 1.

It is noted that claim 2 is depending upon amended claim 1. As discussed above, amended claim 1 is not anticipated by or obvious over Dubrovin et al. Therefore, Applicant respectfully submits that claim 2 is also not anticipated by or obvious over Dubrovin et al.

Responsive to the Examiner's rejection of Claims 7 - 9, Applicant incorporates limitations of claim 10 and 11 into claim 7. Amended Claim 7 recites the at least one compensator comprising at least one direct current offset compensator, the at least one direct current offset compensator for receiving the estimate of the direct current offset of the at least one data packet, the at least one direct current offset compensator for compensating the direct current offset of the at least one data packet using the estimate of the direct current offset of the at least one data packet, and the at least one direct current compensator for producing at least a portion of a partially direct current compensated data packet; and the at least one of the plurality of offset estimators comprises at least another direct current estimator, the at least another direct current estimator for estimating direct current offset from the at least the portion of the partially direct current compensated data packet while the at least the portion of the partially direct current compensated data packet is being received, and for providing an estimate of direct current offset of the partially direct current compensated data packet.

Dubrovin et al. discloses a data communication receiver that receives data packets. Offset estimators are coupled to the input. A DC offset estimator detects and compensates for the DC offset. Nonlinear impairment detection and compensation module receives the DC offset compensated signal. The nonlinear impairments may be removed using any technique. However

Dubrovin et al. does not disclose the feature being the at least one of the plurality of offset estimators comprises at least another direct current estimator, the at least another direct current estimator for estimating direct current offset from the at least the portion of the partially direct current compensated data packet while the at least the portion of the partially direct current compensated data packet is being received, and for providing an estimate of direct current offset of the partially direct current compensated data packet.

Applicant thus respectfully submits that Dubrovin et al. fails to teach or suggest the claimed feature of amended claim 7.

It is noted that claims 8 – 9 are depending upon amended claim 7. As discussed above, amended claim 7 is not anticipated by or obvious over Dubrovin et al. Therefore, Applicant respectfully submits that claims 8 – 9 are also not anticipated by or obvious over Dubrovin et al.

Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Nafie et al. (US 2001/0033601).

Responsive to the Examiner's rejection of claim 14, Applicant incorporates common limiting features found in both claims 15 and 16 into claim 14. Amended claim 14 recites the input receives samples of the at least one data packet; a memory module coupled to the input, the memory module for storing a predetermined number of the samples of at least an initial portion of the at least one data packet, and the memory module for providing at least the stored samples; a complex conjugation module coupled to receive the stored samples, the complex conjugation module for determining complex conjugation of the stored samples, and for providing complex conjugated samples; a multiplier coupled to the input and coupled to the complex conjugation module, the multiplier for multiplying the samples of the at least one data packet and the complex conjugated samples to produce multiplied samples; and an averaging module coupled to receive the multiplied samples, the averaging module for averaging the multiplied samples by another predetermined number, and for providing averaged samples.

Nafie et al. discloses a wireless receiver having an input for receiving an estimate of the DC offset and an output for providing an estimate of the frequency offset. The wireless receiver also comprises a frequency offset estimator having an input for receiving data packets. Nafie et al. however fails to disclose features of amended claim 14 being a memory module coupled to the input, a complex conjugation module coupled to receive the stored samples, a multiplier

coupled to the input and coupled to the complex conjugation module, and an averaging module coupled to receive the multiplied samples.

Applicant thus respectfully submits that Nafie et al. fails to teach or suggest the claimed feature of amended claim 14.

In summary, Dubrovin et al. and Nafie et al. fail to anticipate or make obvious features claimed by the present invention. Therefore, Applicant respectfully requests that the rejections to claims 1 – 2, and 7 – 9 be withdrawn.

Fees

This *Response and Amendment* is being filed within six months of the *Office Action*, and more specifically within three months, thus no extension of time fee is believed due.

The number of Claims is less than the number paid for upon filing.

Nonetheless, should any fees be due, authorization to charge deposit account No. 20-1507 is hereby expressly given.

CONCLUSION

By the present *Response and Amendment*, the Application is believe to be in form for allowance. Should the Examiner have any further questions or reservations, the Examiner is invited to telephone the undersigned Attorney at 404.885.2773.

Certificate of Transmission:

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28 October 2005

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